BuiltQuik
CONSTRUCTION SYSTEMS

Pre-Engineered Structural Frames and Turnkey Construction Solutions

The following products are under patent protection.

PCT/AU 2018/051134 PCT/AU 2012/9248957

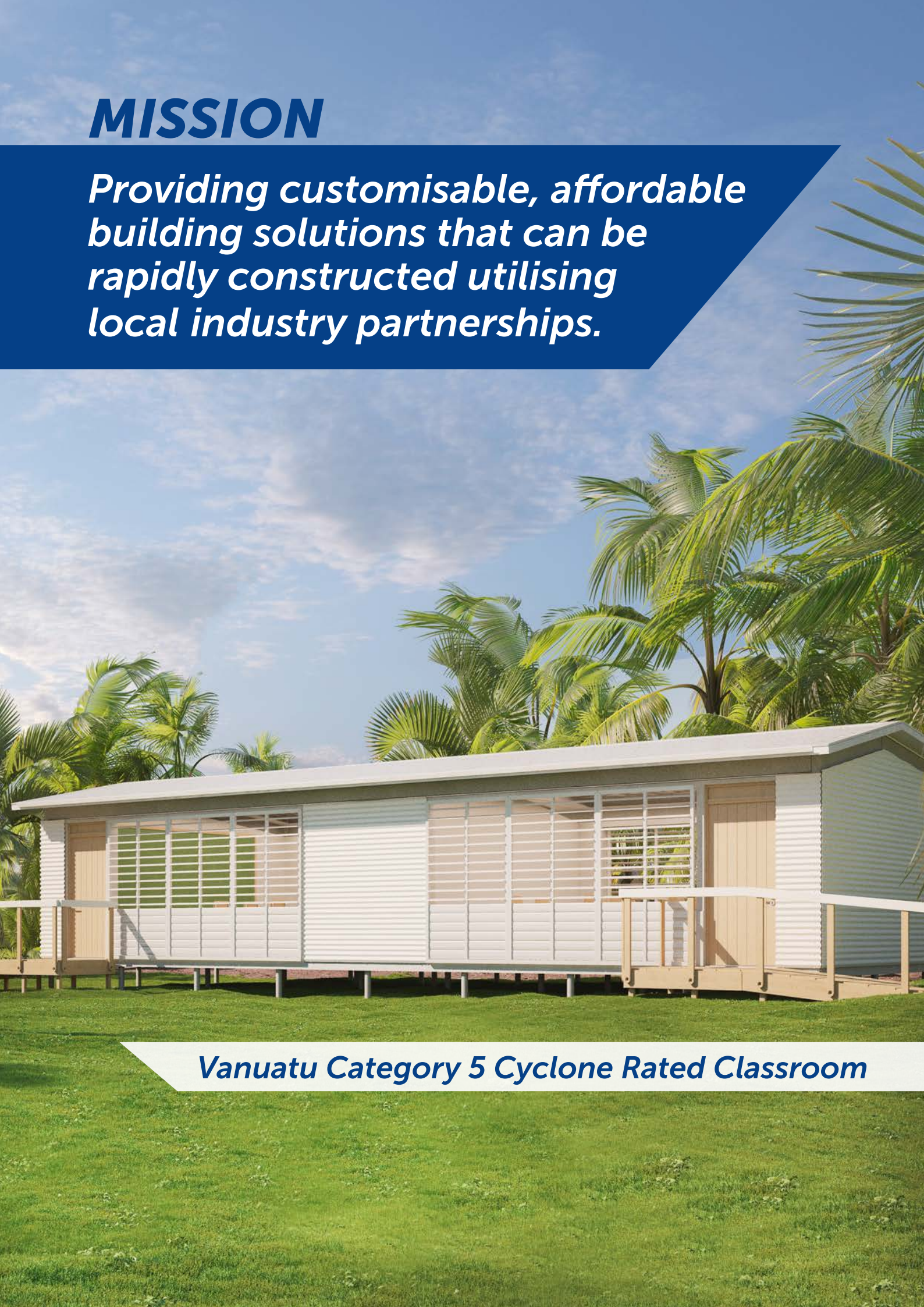
CATALOGUE

In Partnership with SMEC

Member of the Surbana Jurong Group

MISSION

Providing customisable, affordable building solutions that can be rapidly constructed utilising local industry partnerships.



Vanuatu Category 5 Cyclone Rated Classroom

CONTENTS

The BuiltQuik Construction Method

The BuiltQuik Construction System is a **semi-modular prefab** construction solution, where the integrated pre-engineered steel components are packaged and delivered to site, then assembled in place and completed with traditional construction techniques; combining the on-site cost and time efficiency benefits of pre-fab with the customisable finishes of conventional buildings.

BuiltQuik structures are **install-ready** and fully certified to the customer's order only requiring on-site specific footing designs to be conducted and certified. Our structures meet the ever-changing needs of customers, even allowing for future retrofitting of the buildings.

Installation process for a BuiltQuik Frame

BuiltQuik Frame Introduction

BuiltQuik structures are built around standard central frame units, which are lowered during transport to be shipped in a shipping container format, and expanded on-site to form a single module.

A full BuiltQuik package typically contains 2 of these height adjustable frame modules, with additional floor panels and pre-fab components, connected on either side of the central frame to form 2 x 3, 4 or 5 module unit in total.

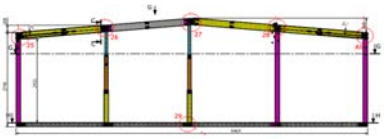
Each 3-module frame has a floor area of ~43 m^2, and these modules can be connected to create larger structures (e.g. a 7-module structure delivers 103 m^2 of floor area shown below).

The maximum that can be packaged into a standard 20ft container equivalent package is 168 m^2 of C5 cyclone-rated, or up to 207m^2 of non-cyclonic, structurally rated frames. Multiple frame packages can be formatted to create customised building shapes and sizes, meeting virtually any customers needs and spatial requirements.

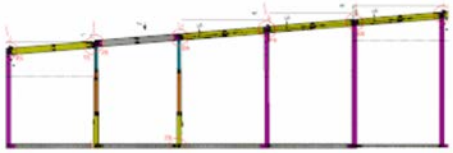
BuiltQuik frames can have variable roof pitches including offset gable, centre and skillion pitches, and be clad with virtually any regionally available material. (Standard pitch is 5-10 degrees).

Single Module Structure

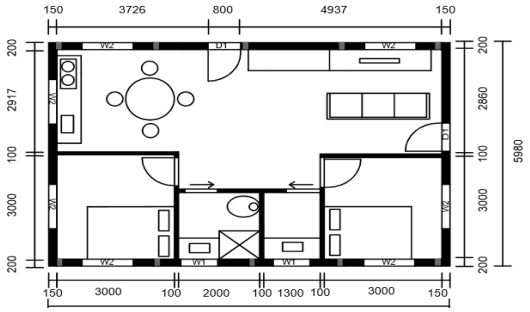
- In each 20ft packaged unit, there can be 2 x modular structures made up of 3, 4 or 5 modules.
- Frame sizes can be customised and used on their own for smaller sized dwellings in both A1/7 and C3-5 regions
- The same versatile cladding finished can be used for any sized BuiltQuik building, as these modules make up the main structural elements of larger BuiltQuik structures.



4 Module (Centre Pitch)



5 Module (Skillion)



4 Module - 2 Bedroom Granny Flat

3 Module Package

3 Module Assembled

2 Module Structure

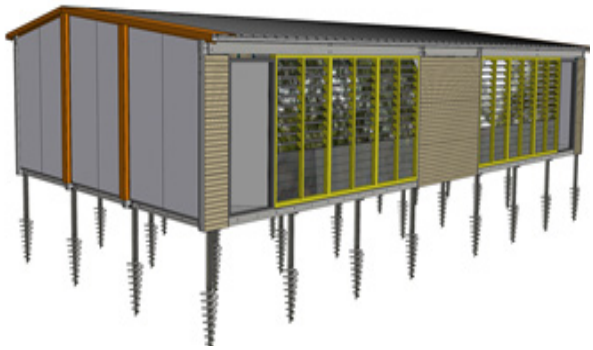
3 Module Structure

Number of Modules	Floor Area (m^2)	Possible Applications
2	28.8	Site Sheds, Ranger Stations, Granny Flats, Disaster Relief
3	43	Site Sheds, Council/ National Parks Facilities , Studios
4	56	Cluster Housing, Accomodation, Studios, Disaster Relief
5	70	Classroom, Temp/Permanant Accomodation, Facilites

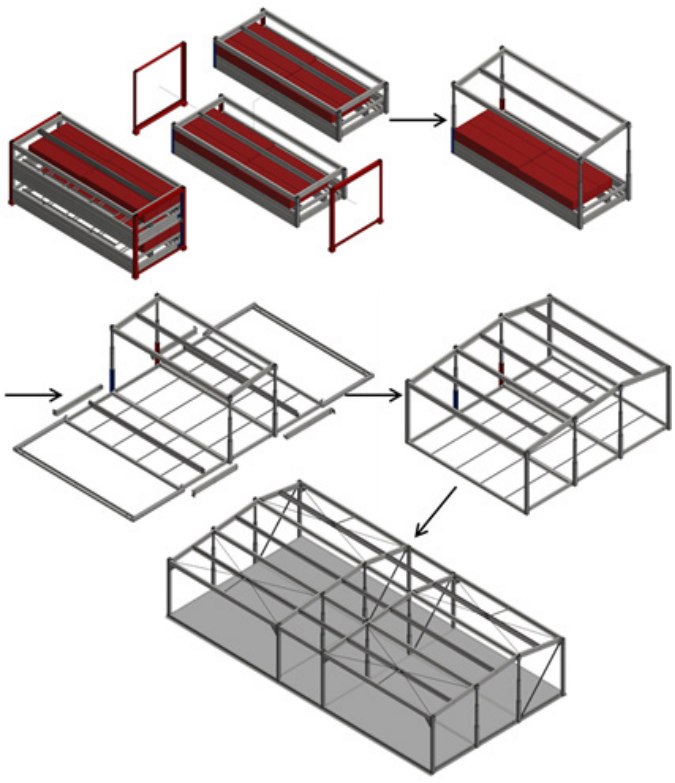
Double Module & Larger Structures

When standard single modules are connected, larger structures can be created with a variety of roof and formatting options. The first series of BuiltQuik designs are rated for any region in Australia, including category 3-5 cyclonic regions, as well as wind regions A1-A7. Custom size and building shape variations to the current BuiltQuik standard designs will incur custom design engineering fees to the customer for the recertification of each custom format/shape/style building

Depending on the region and the wind loading requirement, the space connecting the main structural BuiltQuik modules can increase for lower wind regions.



FLOOR SPACE	• 103m^2
WIDTH	• 7.1m
LENGTH	• 14.4m
WIND REGION	• Category 5
CLADDING PRODUCTS	• Bondor Solar Span and InsulWall • Aluminium Louvers
OPTIONAL FEATURES	• Site Management • SMEC Engineering Services • Local Production Licensing



Frame Modularity

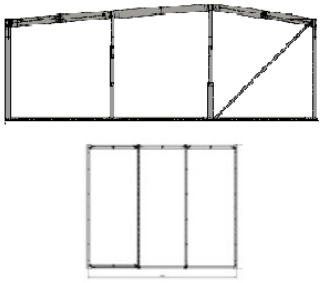
All standard BuiltQuik frames are designed to be easily transported as a 20ft container equivalent-sized unit, supporting the novelty of BuiltQuik's patented construction system.

- The modularity of each size variation is modelled from a single base panel size, 2.4 x 6m (14m^2)
- The minimum building size is a 2 module unit, with the maximum standard size being 15+ module structures (207m^2)

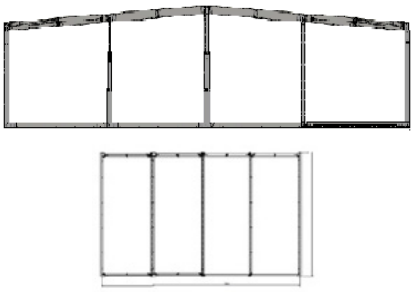
Standard BuiltQuik sizes are also governed by the wind region classification, driving BuiltQuik to develop two key product offering for both Category 3-5 cyclone regions, and Australian regions A1-7, servicing national engineering and building code requirements.

The BuiltQuik system designs have provisions for BASIC, BAL, and BCA certification. All material finishing detail and structurally rated components, meet aesthetic standards and requirements for various traditional cladding material options that complete a BuiltQuik frame into a habitable, council approved dwelling, that meets regional council and building code standards.

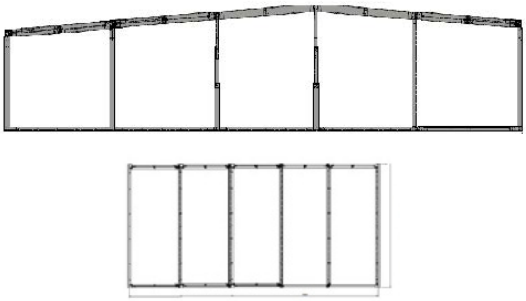
All BuiltQuik structural frames are certified by engineering partner SMEC, independently of any custom fit-out design. The fit-out of BuitQuik frames is mass-customisable to any client's specification. External walls only require wind loading, and internal walls can be partitions, offering residential customers the opportunity to change their internal fit-out as their circumstances/family size changes and grows.



3 Module



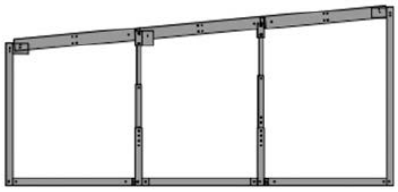
4 Module



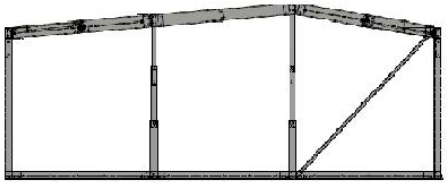
5 Module

Roof Pitch Options

Centre Pitched



Skillion



Skew Pitched

Building Size Range

BuiltQuik Standard Size Range				
PRODUCT	**PERIMETER SIZES**	**NON-STANDARD OPTIONS**	**WIND REGION**	**PRE-CERTIFIED (m^2)**
3 Module	6m x 7.1m	Pitch: Skillion	A1-7 / C3-5	43
4 Module	6m x 9.4m	Removing Columns Pitch: Skillion	A1-7 / C3-5	52
5 Module	6m x 11.7m	Removing Columns Pitch: Skillion	A1-7 / C3-5	76
2 X 3/4/5 Module Structures with 2.4m connector member	14.4m x Module Width	Removing Columns Pitch: Skillion/ Centre/Skew	Category 5 Cyclone Rated	103 -168
2 x 3/4/5 Module Structures with 5.8m Connector	17.8m x Module Width	Removing Columns Pitch: Skillion/ Centre /Skew	Regions A1-7 Certified	130 - 207
Custom Formatting options (using standard module sizes)	TBA By Client	TBA	As per customer requirements	Maximum of 450

FEATURES	BENEFITS
Pre-engineered, pre-certified, pre-fabricated	Simple and fast on-site installation, seamless design-build process
No external or internal walls	Allows for custom fit-out design and retrofitting over time to meet changing tenant requirements, using locally available material & trades
Pre-fabrication can be done by regional fabricators	Decentralised economic opportunity through the use of local trades, providing reduced transport cost.
Easy to assemble prefab components	Reduced WHS risk from shorter project timelines, use of local labour and trades, local plant hire, develop regional teams
Designed to fit into existing industry processes	Structural frame designs can be exported directly into Revit/ ArchiCAD design platforms, for fit-out design completion, builders and suppliers sourced regionally can complete structures with no minimal change to their existing trade processes.
Co-design & co-build	System design and delivery model allows for co-design with tenants/ clients, as well as provides opportunity for inclusion and meaningful skills development in the construction processes
Faster, simpler, safer	Reduced project costs & reduced lifetime costs.

Cladding Options - Designing with the BuiltQuik Standard

To provide an opportunity for materials supply and regional trades fit-out of BuiltQuik structures, the wall, floor, and roof materials, windows and doors, and internal wall positioning, are all left to be defined by the client/ end user of the desired building.

To meet the various aesthetic requirements and standards in the Australian and global construction industry, BuiltQuik has developed optional structural components to support the use of standard stud walls, insulated panels, and masonry (Brickwork/Hebel) options, for building completion.

Upon selection of the building size and design, the client advises the intended cladding material, in order for the appropriate components to be supplied.

Corrugated Iron

Insulated Panel

Masonry (Brick)

KEY FEATURES	CONSTRUCTION BENEFITS	COST SAVINGS
Sustainably sourced, co-designed, and affordable building solution	• Offering versatility to easily customise • Unlimited fit-out retrofitting renovations • No re-engineering required for internal changes. Additional units can be added later (extensions). • Region A1-7 & Category 3-5 cyclone rated • Versatile wall finishes suiting local preferences. • Manufacture to meet local building code requirements in any global region. • Patented construction system - giving manufacturing security to licencees. • Support development of regional manufacturing hubs, engaging with industry • Components can be pre-processed and ready to assemble at more remote facilities with minimal equipment, supporting remote employment.	• Reduce on-site time up to 40%. • Transparent & consistent project costings. • Maximum involvement of local trades, & suppliers, reducing overall project costs. • Structural Pre-Engineering reduces custom fit-out design fees. • Economies of scale when producing standard components reduces overall material cost. • Supplied through local businesses, allowing investments to support your local communities.
Structural frame (103m^2) installed in a day (6-8 hours)		
Quickly installed & assembled on-site by regionally available labour under the supervision of trained BuiltQuik installers (training manual available)		
Easily transported unit (20ft/6m package with ISO blocks for shipping & handling, equivalent size of a standard shipping container)		

BuiltQuik Residential

BuiltQuik supplies frames and semi-complete material packages for on-site assembly and fit-out completion with local trades groups, into the Australian and international markets.

The BuiltQuik designs service cyclonic and non-cyclonic residential buildings, schools, site sheds, granny flats, clinics/medical facilities, and two story construction projects utilising BuiltQuik's single and double-height frame designs.

The residential delivery and fit-out completion process is enabled by partnering with regional building design firms, construction companies, and steel fabricators, to drive sales, production efficiencies, and local trade opportunities, sharing the commercial benefits and work opportunities with these regional businesses.

BuiltQuik will continue to collaborate within our supply chain, to explore the patent's potential for different construction applications and market opportunities going forward. BuiltQuik's objective is to provide a construction solution that empowers and enables regional communities to determine their own socio-economic growth, wellbeing, housing design and employment status.

BuiltQuik Design Services	Service Provisions
Structural Frame Certification	• Standard frame size and roof variation certification • Bespoke frame design certification to regional building code and client specific requirements.
Custom Fit-out Structural Design Certification	• Client specific fit-out design certification for main structural elements. • Including external and internal walls and placement of windows and doors • Excluding plumbing and electrical services
Site Specific Footing and Foundation Design (BQ/SMEC)	• Town planning and professional advisory services. • Foundation engineering • Pile design and certification
Construction coordination and advisory services	• Coordination Support • Project management • Local supply chain facilitation / production facility design / process advisory

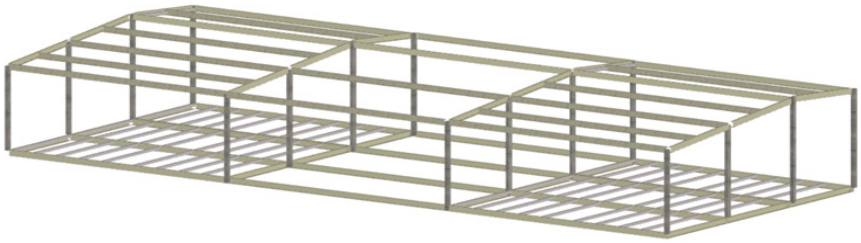
We provide a wide spectrum of engagement opportunities to maximise our clients outcomes and objectives

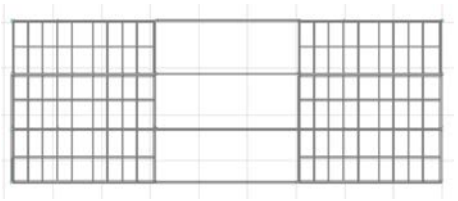
- **Licensing of Structural Frame IP**
- **Supply of Structural Frames**
- **Frame Supply & Provision of Additional Engineering Services**
- **Establishing / Joining of Provision of Additional Engineering Services**

Structural Certification

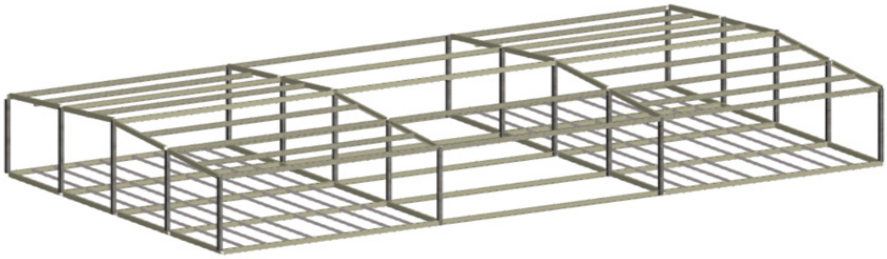
BuiltQuik A1-7 Standard Designs

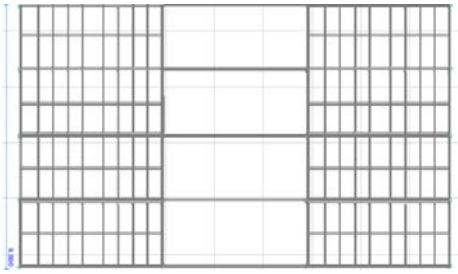
For A1-7 wind regions, standard 3, 4 and 5 module structures can be joined with a 6m space between them, efficiently providing a larger surface area of structurally certified prefab frame components for any building application.



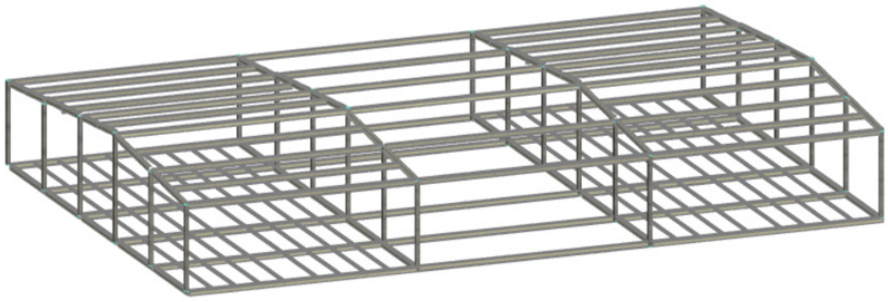


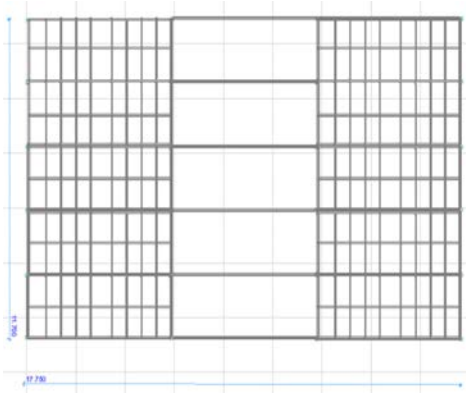
3 Module Wide, 9-Modue Structure





4 Module Wide, 12-Module Structure





5 Module Wide, 15-Module Structure

Wind Region A1-7 Certified Standard Building Sizes

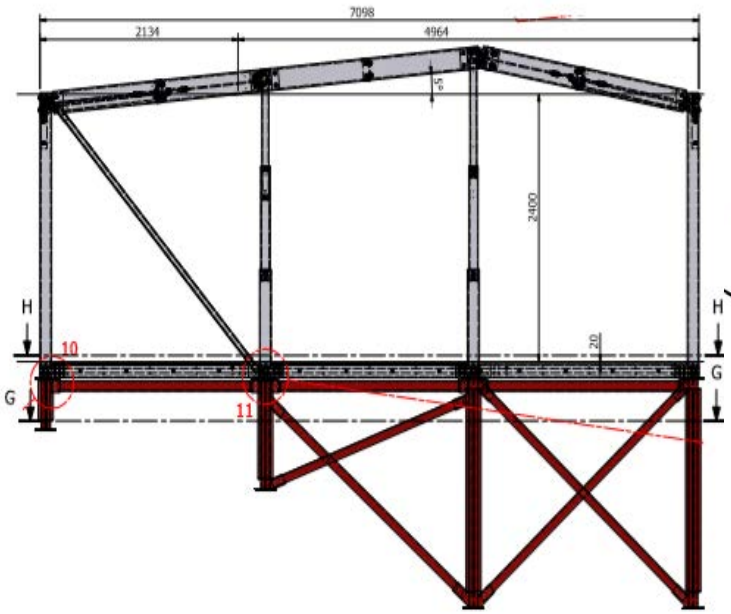
The standard 3, 4, and 5 module structures can be joined in A1-7 regions with a ~6m connector between 2 structural modules.

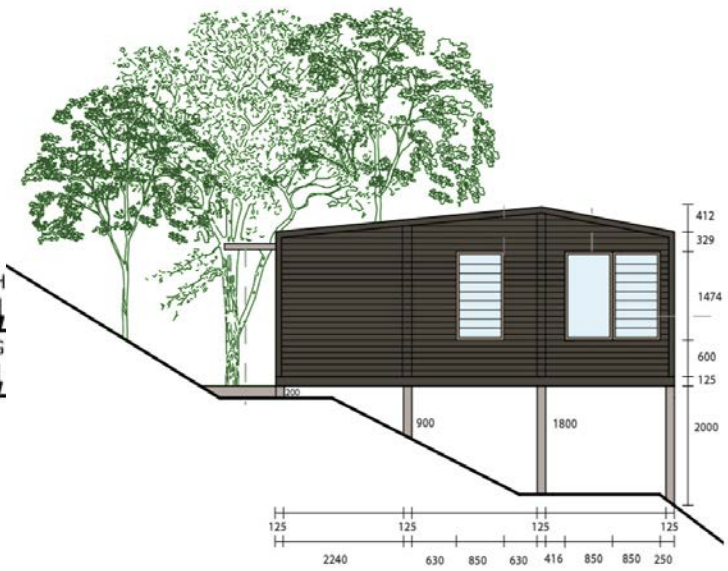
The sizes of the A1-7 certified design variations are as follows:

Span (m)	Wind Load Rating	Connector Piece	Dimensions	Footprint Total (m^2)
3 Module Structure	A1/7	0	6 x 7.1m	43
4 Module Structure	A1/7	0	6 x 9.4m	56.4
5 Module Structure	A1/7	0	6 x 11.7m	70.2
3 Wide (9 Module)	A1/7	~ 6m	18 x 7.1m	127.8
4 Wide (12 Module)	A1/7	~ 6m	18 x 9.4m	169.2
5 Wide (15 Module)	A1/7	~ 6m	18 x 11.7m	210.6

Sample Orders

3 MODULE A7
NOWRA HILL, NSW





3-Module BuiltQuik Module and Footings (SMEC Engineering)

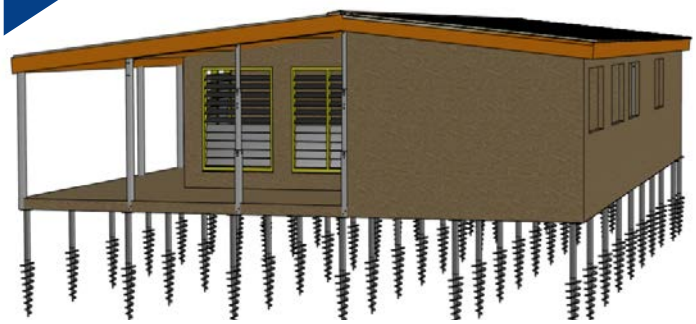
This 3 module structure is engineered for up to A7 wind regions, meeting the local Nowra wind loading requirement of A5. Engineering services was provided by SMEC.

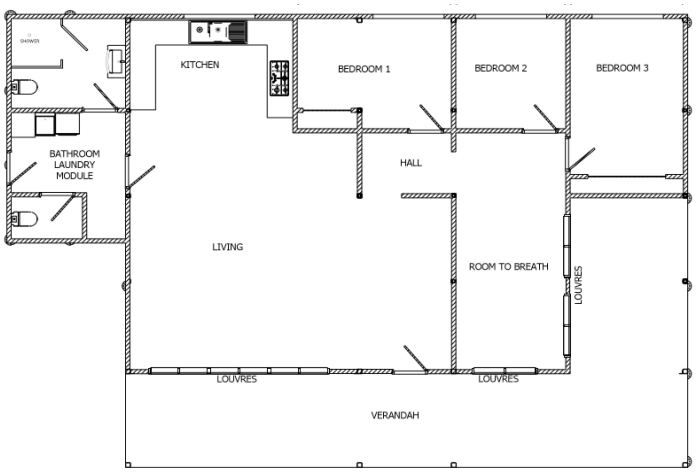
BuiltQuik developed the production designs for the footings and managed the structural pier, footing design and supply, and structural frame supply and installation on-site. BuiltQuik have also managed the fit-out design, and material supply elements of this project for the client.

BuiltQuik Standard Supply Components

- BuiltQuik 3 Module Structural Frame (A1-7 Certified)
- Footing/Engineering drafting services (SMEC & BQ) upon request
- Basic site and fit-out design project management
- Footing and frame supply and installation management

9 MODULE C5
HOMEBUILD NT
3BDR ROOM
TO BREATHE





BuiltQuik 9 Module Structure with 3m Veranda Panel, HomeBuild NT 3 Bdr Room to Breathe

This is a concept design to meet standard HomeBuild NT Indigenous community housing requirements. The selected frame design was a 9 module structure with a 3m veranda panel made of additional prefab components. A bathroom pod was selected for the wet areas for ease of maintenance and repair. The total price of this 3 bedroom Cat 5 dwelling was approximately 40% lower than an equivalent house designed and constructed using traditional methods.

BuiltQuik has collaboratively developed the community and Indigenous business engagement model with CCC (Cross Cultural Consultants) and NTIBN (Northern Territory Indigenous Business Network).

NTIBN are in the process of incorporating BuiltQuik's supplier data collection framework into their website and member database, to assist with representing remote businesses. BuiltQuik aspires to work with regional businesses to complete structures to regional customer's requirements, to help sustainably establish regional supply chains to deliver affordable housing whilst supporting regional economies and SMEs.

QTY	BuiltQuik Components
1	9 Module Cat 5 Rated BuiltQuik Frame
60	Screw Piles
	Solar Span Roofing & Bondor Wall Panels with Aluminum Louver Windows

BuiltQuik Project Timeline

Customer	BuiltQuik
Initial enquiry, provide project design details to BuiltQuik	
	Quote sent to customer
Request BuiltQuik structural files for fit-out designers, develop external & internal designs plans	
Commence DA process	
Accept quote, give purchase order	
	Send sales contract & deposit (50%) invoice
Sign contract, pay deposit	Counter-sign contract, initiate production **(4-8 weeks lead-time, depending on project)**
Arrange site preparation works (earthmoving, foundations, etc.) **(5 days)**	
	Liaise with customer for estimated delivery date
BuiltQuik component delivery and frame installation onto footings, install stud wall or masonry ledges around perimeter **(~1-2 days)**	BuiltQuik frame package delivery to site
Install floor joists and flooring material **(~1 day)**	
External and internal stud stud walls built/ fixed into BuiltQuik frames **(~1 day)**	BuiltQuik / contractor inspection on frames prior to cladding
Install windows and doors **(~1 day)**	
Clad roof and walls with specified regionally available materials. **(2 days)**	
	Upon project completion, supply Material Data Records (MDR)
Batten out internal side of stud walls for plumbing, electrical, insulation and internal lining **(~3 days)**	
Internal fitting, appliance, and joinery install, **(10 Days)**	

Total lead time from order to lockup
3 MONTHS

BuiltQuik
CONSTRUCTION SYSTEMS

RAPID IMPACT

R Reusable / Re-deployable
A Affordable Building Solution
P Pre-Engineered & Pre-Fabricated
I Investment localised through regional trade completion of BQ structures
D Designs can be customised to the local cultural expectations

I Increase local business and community engagement
M My Home, designed and built by Me, for My Family
P Partnerships support sustainable, local supply chains
A Alignment with local needs & industry capability
C Certified up to category 5 cyclone ratings
T Transference of BQ System knowledge and skills to locals

For BuiltQuik frame pricing, and custom building design enquiries for your next construction project, please contact:

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